SERVICE MANUAL

GOODMANS 1404

ALBA

CTV 840

BUSH

1402

HiNARi

HIT140RC

SOLID STATE 14" COLOUR TELEVISION RECEIVER

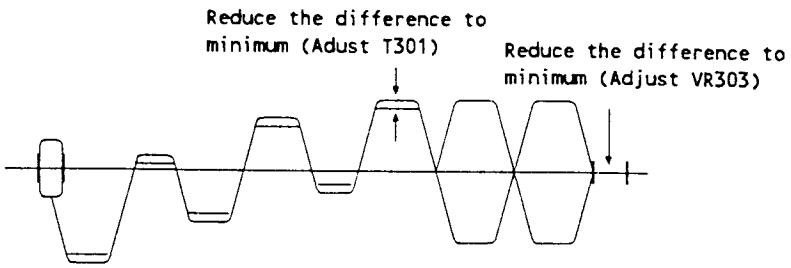
GOODMANS 1404A

ALBA BUSH harvard HiNARi

XIII. COLOUR DEMODULATOR ALIGNMENT, DELAY LINE ALIGNMENT

1. Receive PHILIPS pattern and set the AFC switch to "ON" position. (PRESET SWITCH TO OFF POSITION)
2. Set COLOUR control to maximum position.
3. Connect Oscilloscope to TP302 (B out).
4. Adjust (VR303, T301) to obtain the waveform as in Fig.7.

Fig.7



XIV. SUB-BRIGHTNESS ALIGNMENT

1. Receive MONOSCOPE pattern and set AFC switch set "ON" position (PRESET SWITCH TO OFF POSITION).
2. Set controls as follows:
   BRIGHTNESS control - MID. position.
   CONTRAST control - MID. position.
   COLOUR control - MID. position.
3. Adjust SUB-BRIGHTNESS (VR304) control to get the eight step of the grey scale just illuminates in the Monoscope Pattern.

XVI. COLOUR PURITY ADJUSTMENT (SEE FIG.8)

BEFORE ANY ADJUSTMENTS DESCRIBED BELOW ARE ATTEMPTED, V-HOLD, H-HOLD, V-HIGH, B-HIGH B+ VOLTAGE AND FOCUSING ADJUSTMENTS MUST BE COMPLETED.

1. Place the TV receiver facing NORTH or SOUTH.
2. Plug in TV receiver and turn it on.
3. Operate the TV receiver for over 30 minutes.
4. Fully degauss the TV receiver by using the external degaussing coil.
5. Receive a crosshatch pattern and adjust the static convergence control roughly.
6. Loosen the clamp screw of the deflection yoke and pull the deflection yoke towards you.
7. Fully turn the red and blue Low Light (VR501, VR502, VR504) controls counterclockwise.
8. Adjust the purity magnets so that a green field is obtained at the centre of the screen.
9. Slowly push the deflection yoke towards bell of CRT and set it where a uniform green field is obtained.
10. Tighten the clamp screw of the deflection yoke.

XVII. ON SCREEN ADJUSTMENT

1. Receive the Monoscope Pattern.
2. Adjust on SCREEN (VR601) for adjust the lettering to centre of CRT.

XVIII. CONVERGENCE ADJUSTMENT (SEE FIG.8)

1. Receive a dotted pattern.
2. Unfix the convergence magnet clamper and align red with blue dots at the centre of the screen by rotating (R,B) static convergence magnets.
3. Align Red/Blue with green dots at the centre of the screen by rotating (RB-G) static convergence magnet.
4. Fix the convergence magnets by turning the clamper.
5. Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence.
6. Fix the deflection yoke by wedges.
7. If purity error is found, follow "PURITY ADJUSTMENT" instructions.

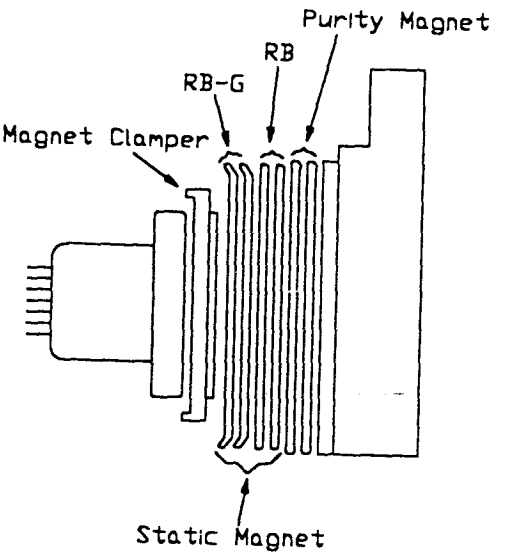
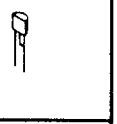
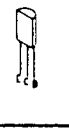
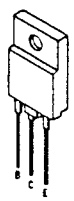
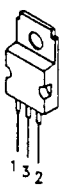
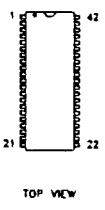
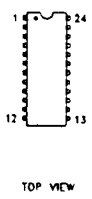
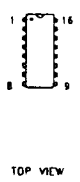
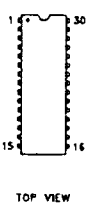


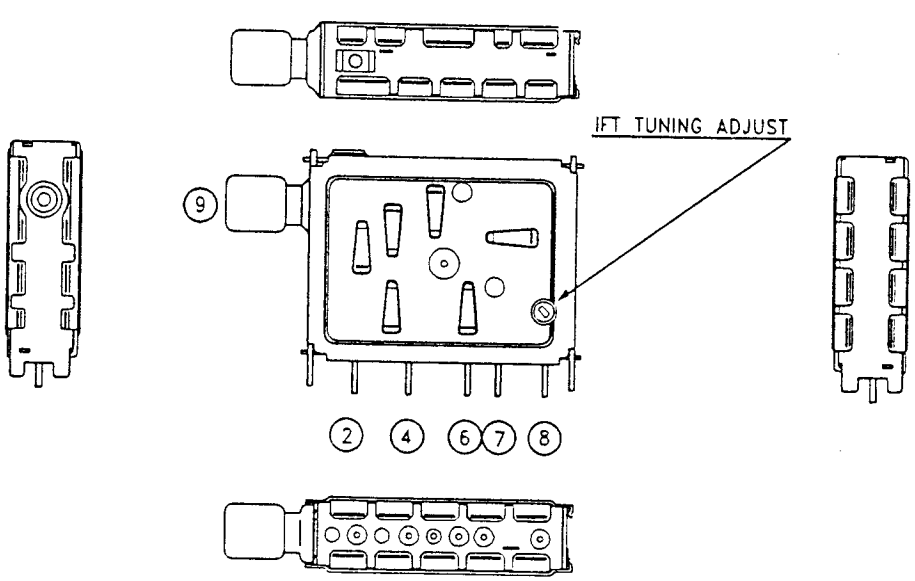
Fig.8

TRANSISTOR AND IC IDENTIFY

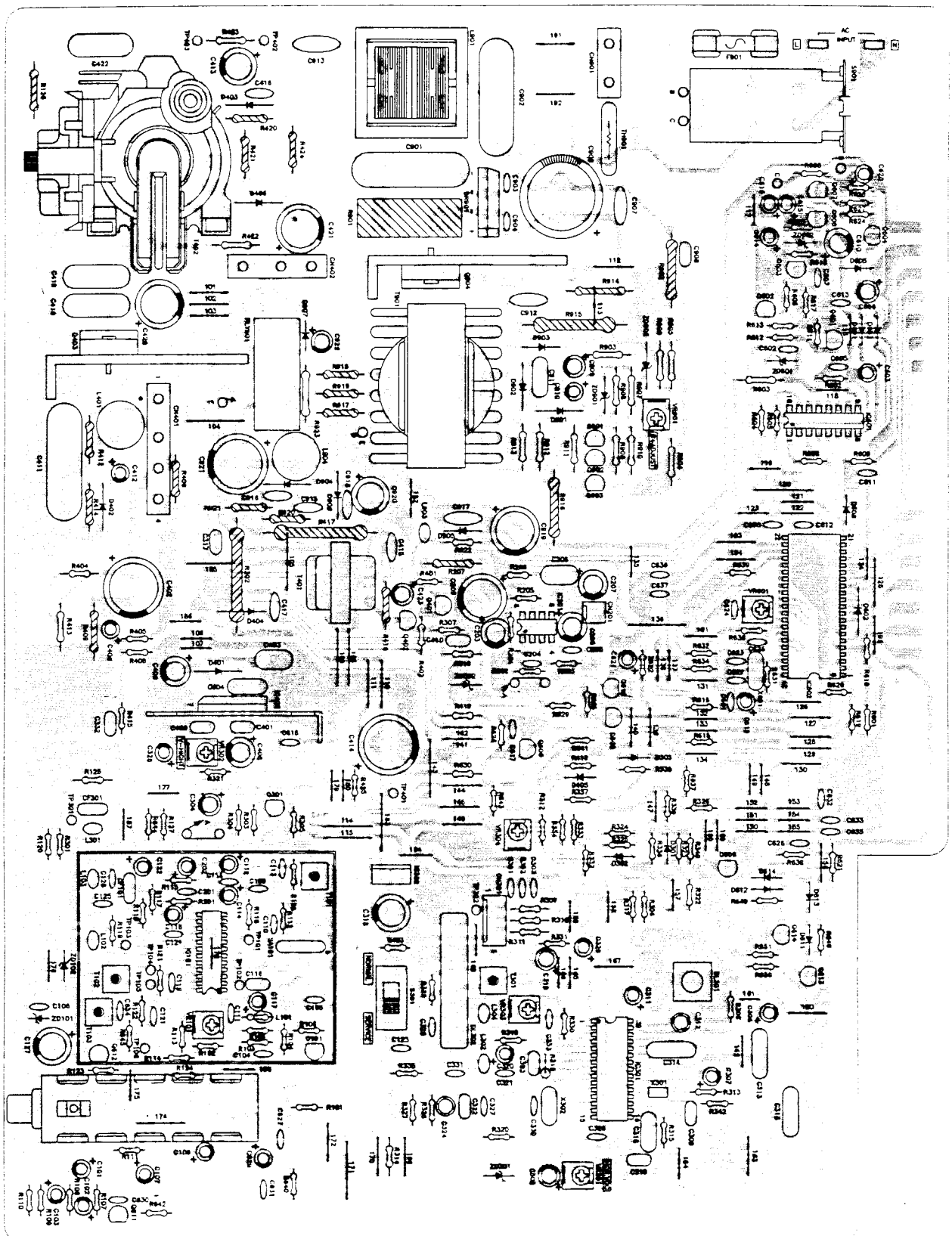
	KA33V		2SC2482		TBA820M		2SA1015 2SC388A 2SC1815Y 2SB774
	2SD400		2SD1554 2SD1545		LA7830		L7812CV
	MN15245 KWC		TA8701N		MN1220		TA8718N

PICTORIAL VIEW OF TUNER

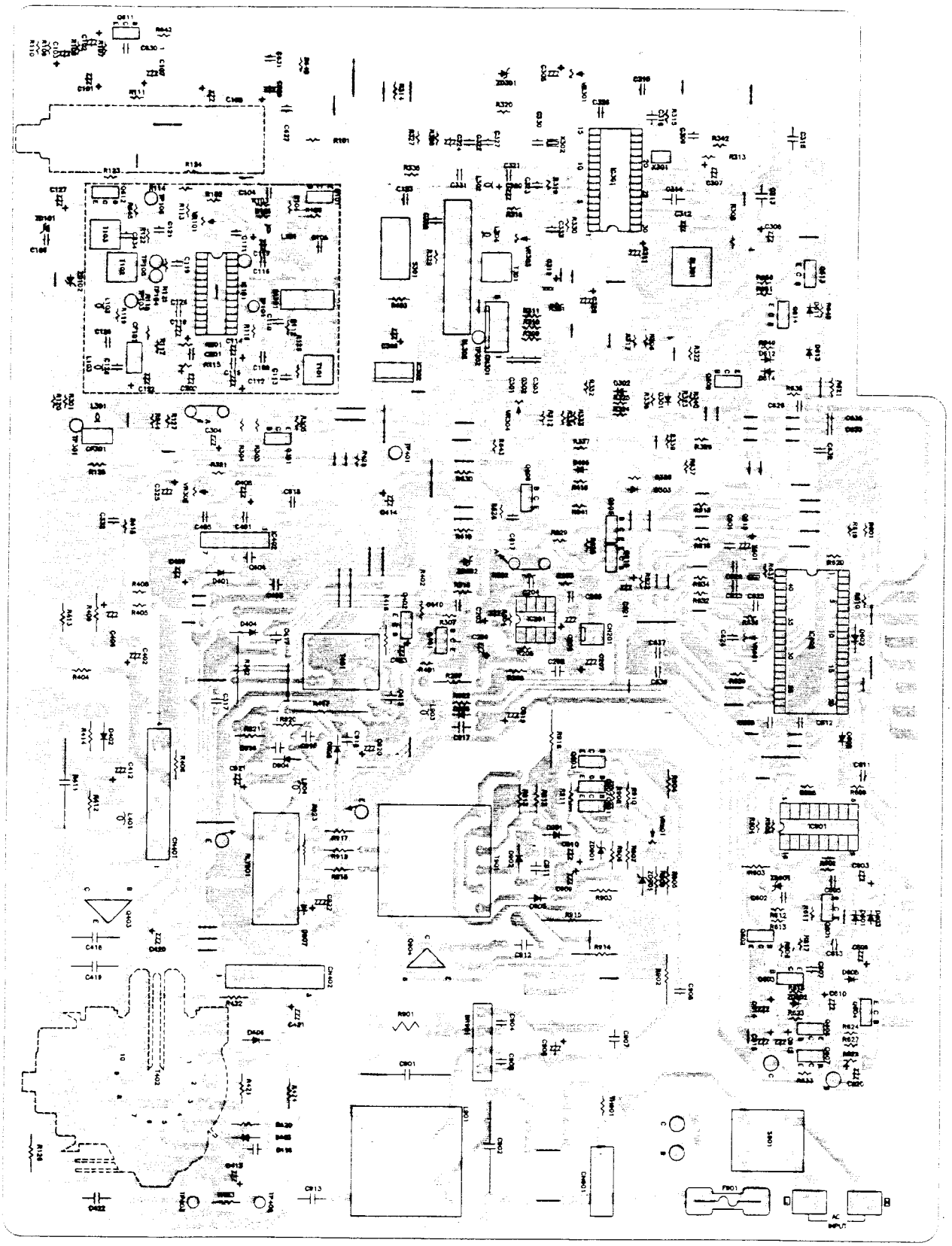
TERMINAL NO.	1	2	3	4	5	6	7	8	9
TERMINAL NAME	-	VT	-	AGC	-	AFT	MB	IF	ANT
SUPPLY VOLTAGE (V)	-	1.28	-	8.5	-	6.5	12	-	-



COMPONENT DIAGRAM OF MAIN BOARD (TOP VIEW)



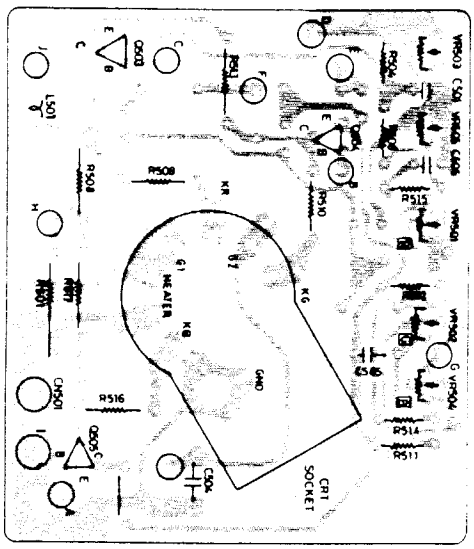
COMPONENT DIAGRAM OF MAIN BOARD (BOTTOM VIEW)



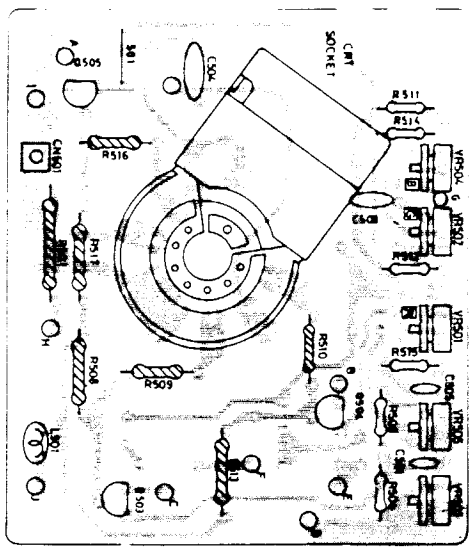
COMPONENT DIAGRAM

CRT BOARD

(BOTTOM VIEW)

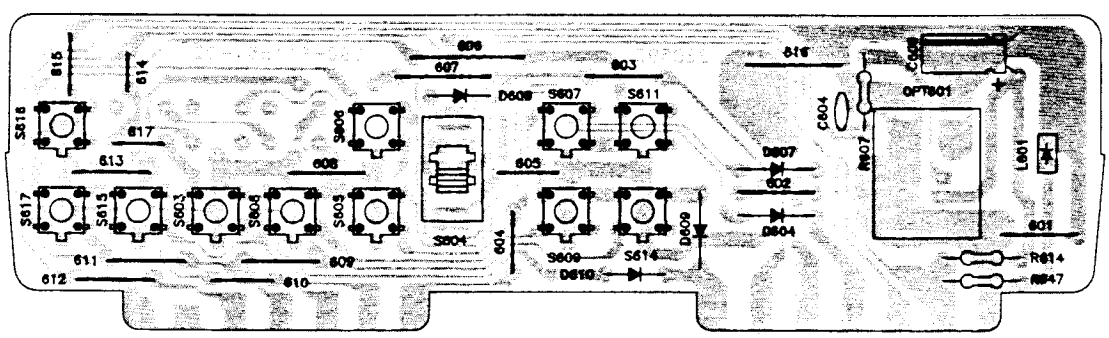


(TOP VIEW)

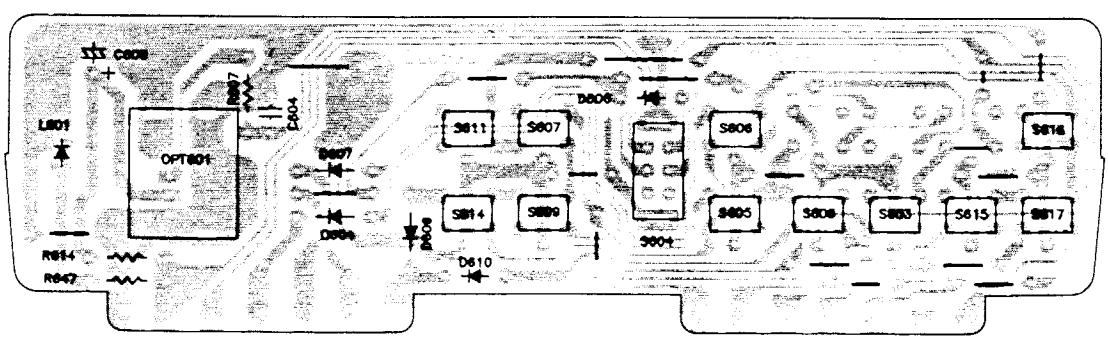


FUNCTION BOARD

(TOP VIEW)



(BOTTOM VIEW)



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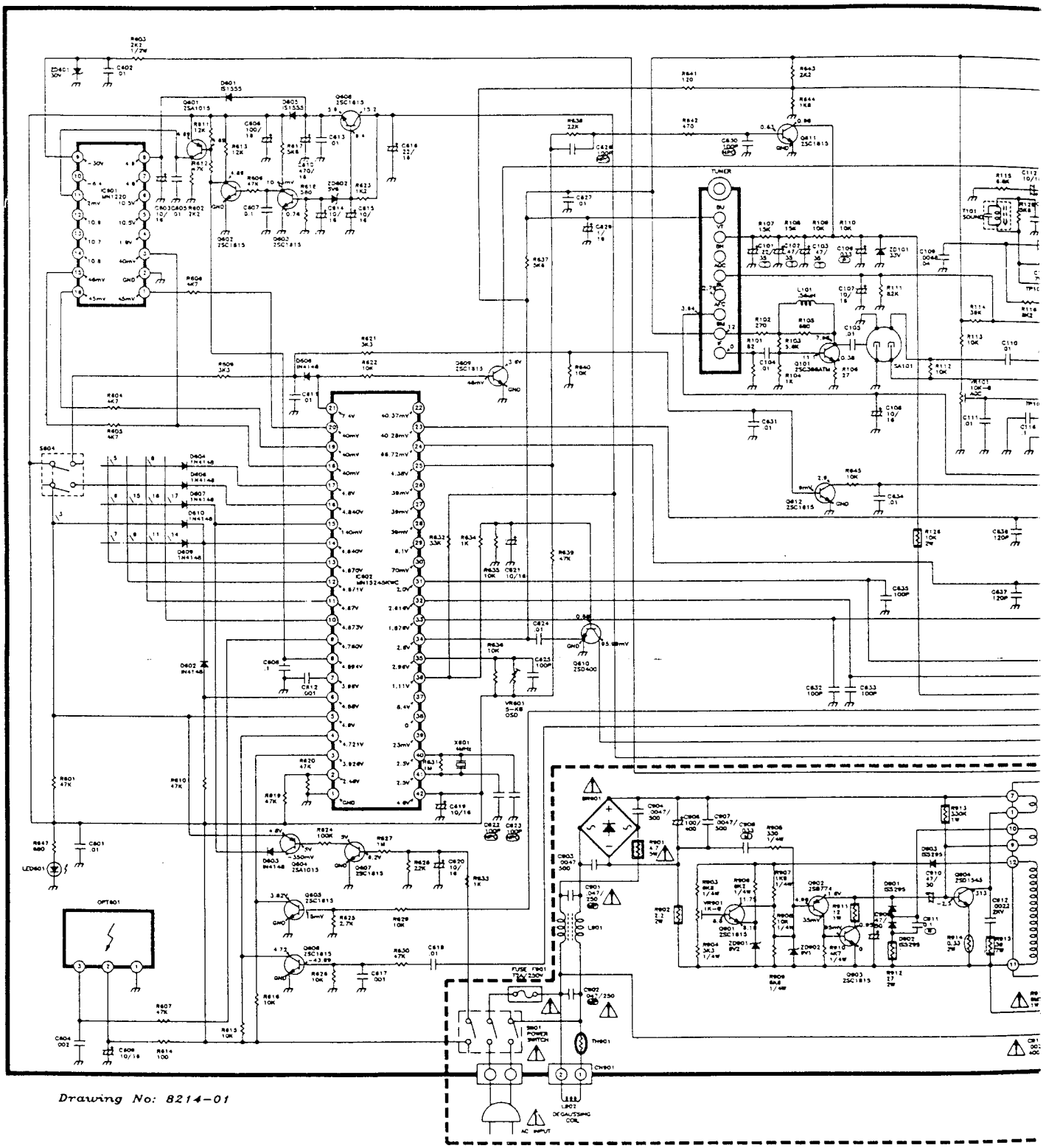
SCHEMATIC DIAGRAM FOR PAL-I SYSTEM

MAIN BOARD



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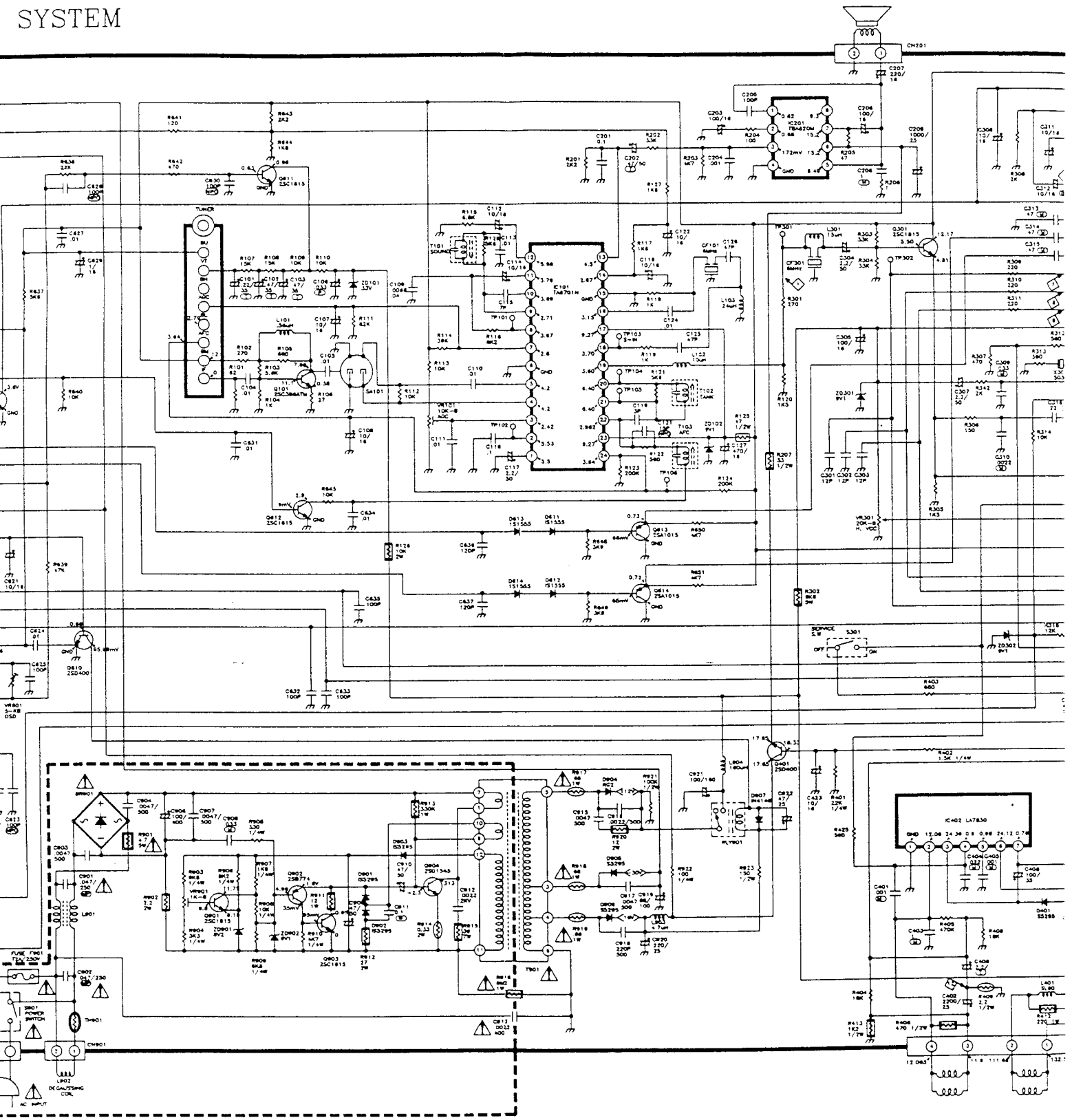

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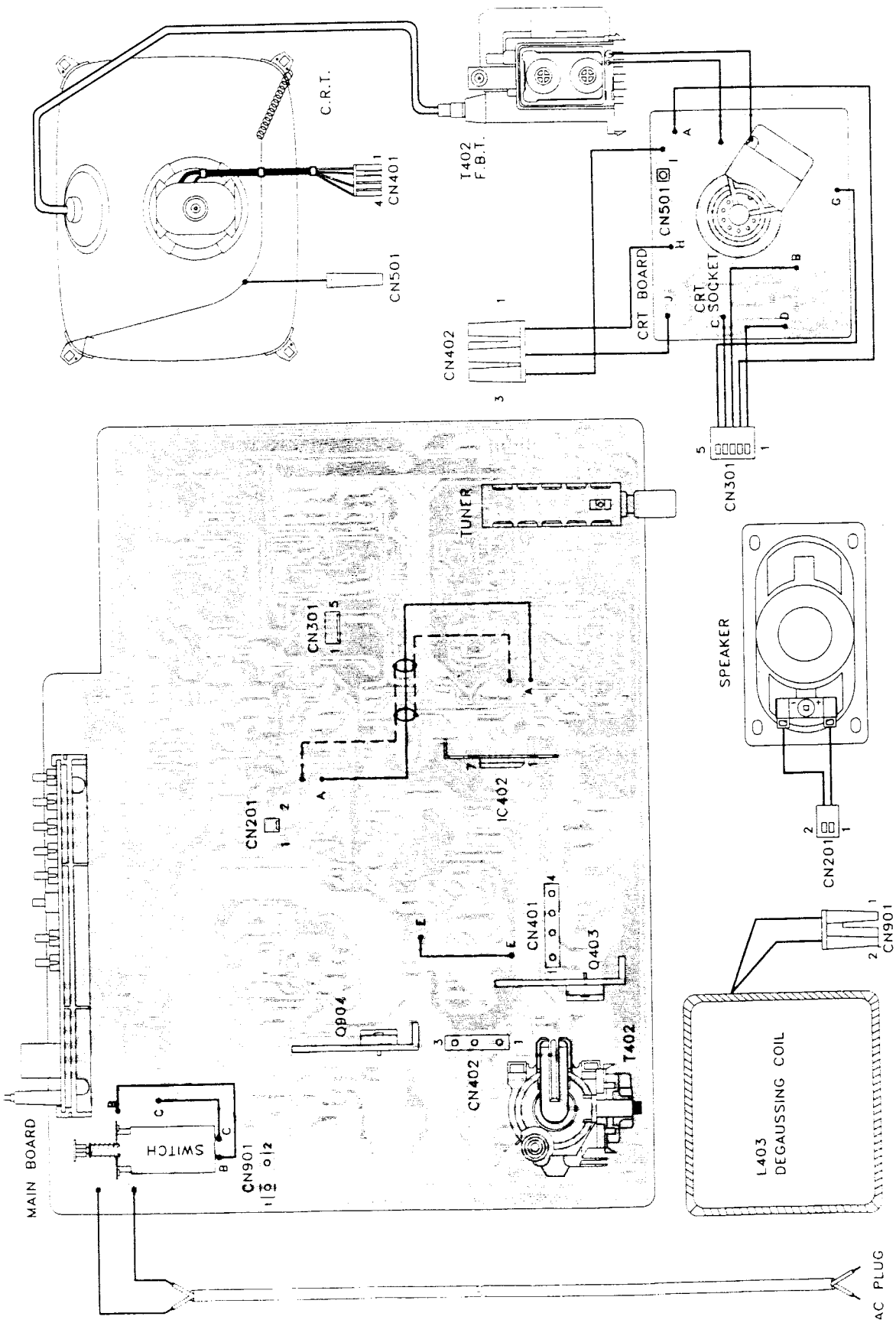
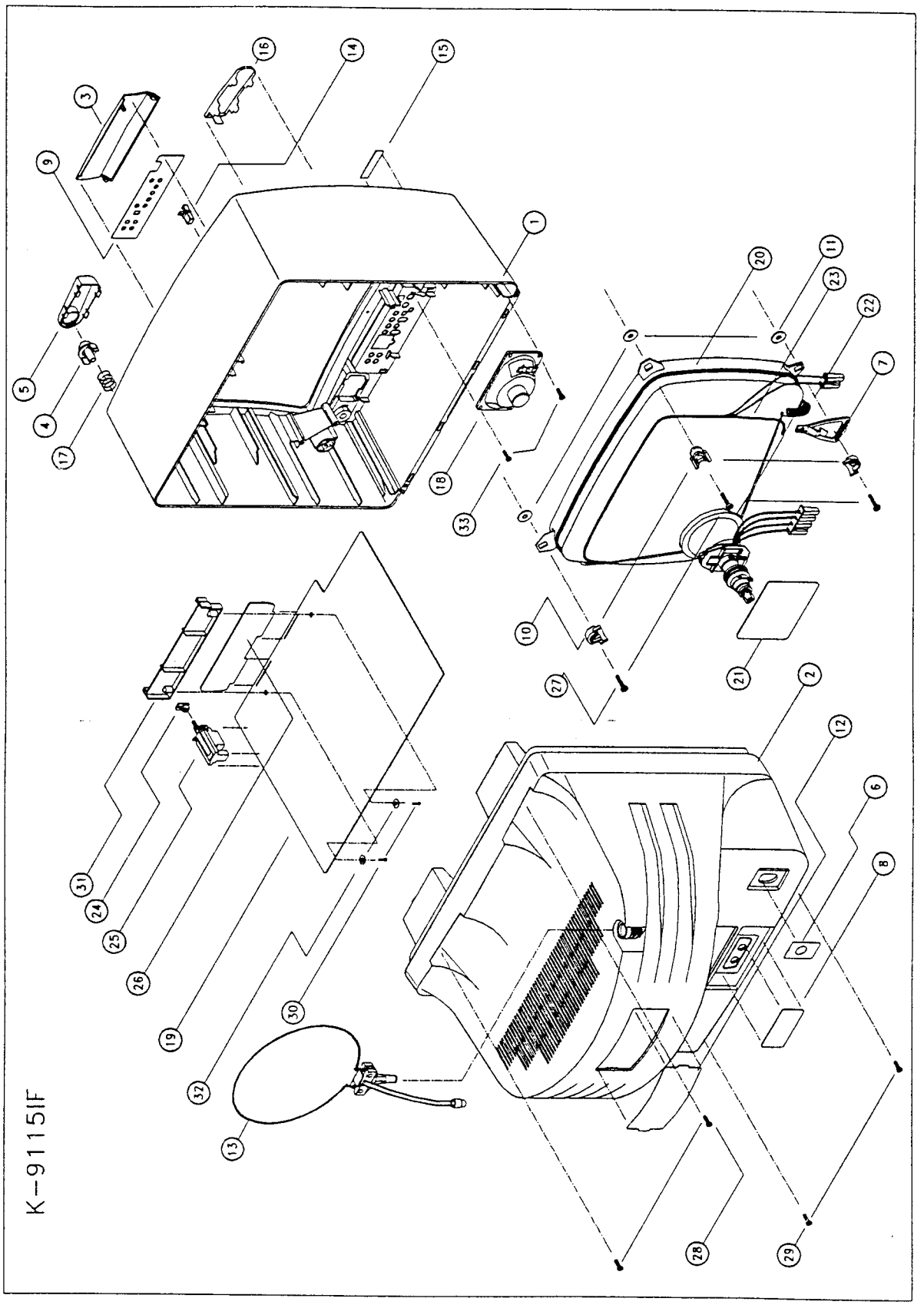
This manual is the latest at the time of printing, and does not include the modification which may be made after the printing, by the constant improvement of product.

WIRING DIAGRAM



EXPLODED VIEW DIAGRAM



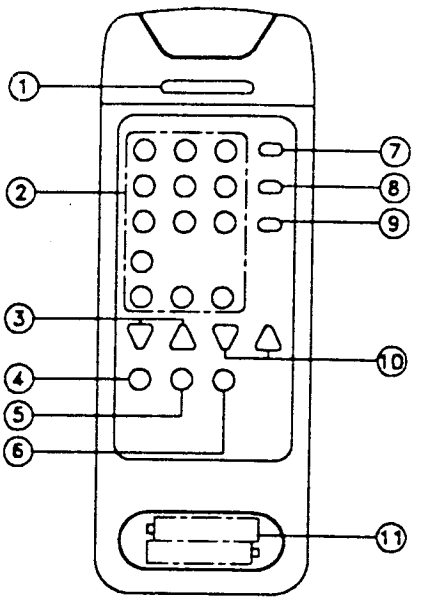
EXPLODED VIEW PART LIST

LOCATION	PARTS NO.	DESCRIPTION	QTY
1	200-921501-XX	FRONT CABINET	1
2	202-911503-XX	BACK CABINET	1
3	219-921501-01	PANEL DOOR	1
4	292-921501-01	POWER KNOB	1
5	263-921501-01	LENS	1
6	418-911540-01	TUNER COVER W/SILK-PRINTING	1
7	259-911501-01	DEGAUSSING COIL CLIP	2
8	381-911501-01	A/V IN COVER	1
9	418-911515-01	PRESET OVERLAY	1
10	229-371501-01	C.R.T. MTG CLIP	4
11	334-391501-01	RUBBER RING (T=3 MM)	4
12	412-921501-XX	MODEL PLATE	1
13	485-911501-01	LOOP ANTENNA ASS'Y	1
14	702-391201-02	DOOR LOCKER ASS'Y	1
15	411-371601-XX	NAME PLATE	1
16	403-911501-01	SPEAKER GRILLE	1
17	477-921501-01	SPRING FOR POWER KNOB	1
18		SPEAKER	1
19		MAIN P.C. BOARD ASS'Y	1
20		C.R.T. 14"	1
21		C.R.T. P.C. BOARD ASS'Y	1
22	477-371601-01	C.R.T. SPRING	1
23		DEGAUSSING COIL ASS'Y	1
24	239-391201-01	ADAPTOR FOR POWER SWITCH	1
25	046-100001-14	POWER SWITCH	1
26		FUNCTION P.C. BOARD ASS'Y	1
27	614-500238-10	SELF-TAPPING SCREW B/T 5 X 38 mm	4
28	614-500416-10	SELF-TAPPING SCREW B/T 5 X 16 mm	2
29	614-400416-10	SELF-TAPPING SCREW B/T 4 X 16 mm	2
30	612-300110-10	SELF-TAPPING SCREW W/T 3 X 10 mm	2
31	229-911502-01	FUNCTION P.C. BOARD MOUNTING BRACKET	1
32	530-080032-08	FIBRE WASHER	2
33	614-400408-10	SELF-TAPPING SCREW B/T 4 X 8 mm	2

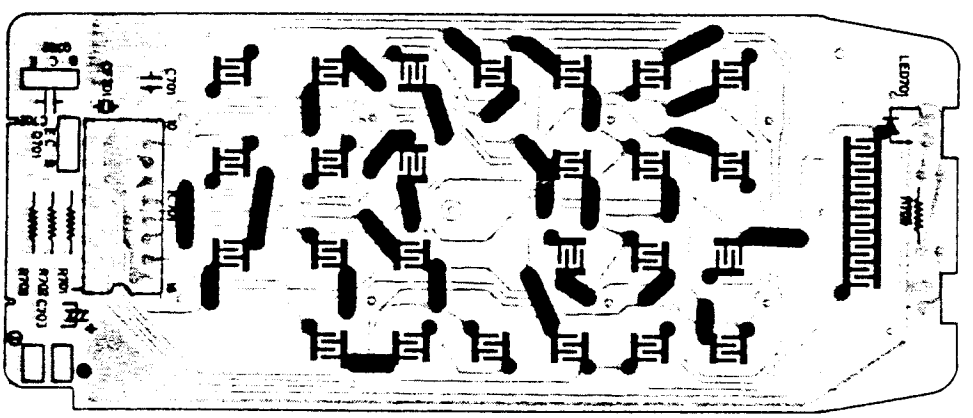
REMOTE HANDSET UNIT

CONTROL LOCATION

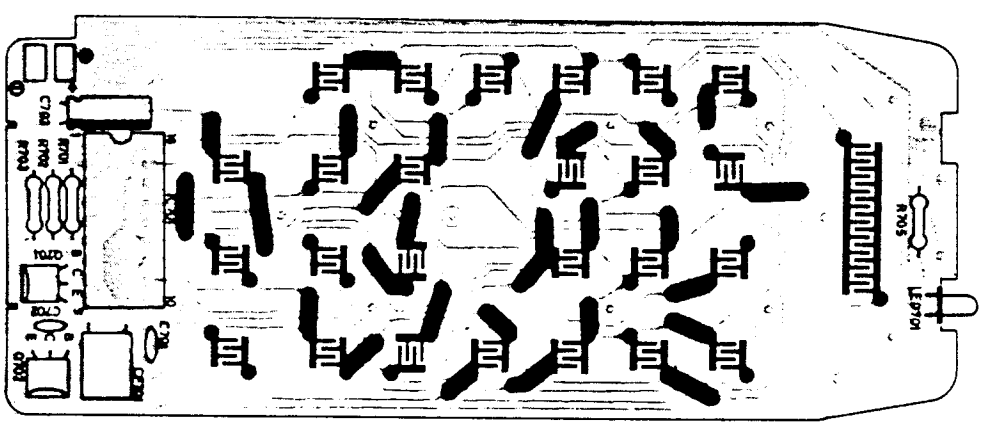
1. Stand By Button
2. Number Buttons
3. Volume Up/Down Buttons
4. Picture Selector Button
5. Picture Down Button
6. Picture Up Button
7. Mute Button
8. Sleep Button
9. Recall Button
10. Program Up/Down Buttons
11. Battery Compartment Lid



COMPONENT DIAGRAM OF REMOTE HANDSET P.C. BOARD :



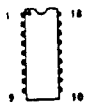
(BOTTOM VIEW)



(TOP VIEW)

TRANSISTOR & IC IDENTIFY

TOP VIEW



MN 6014A

2SC 2001L
2SC 945

VOLTAGE FOR IC

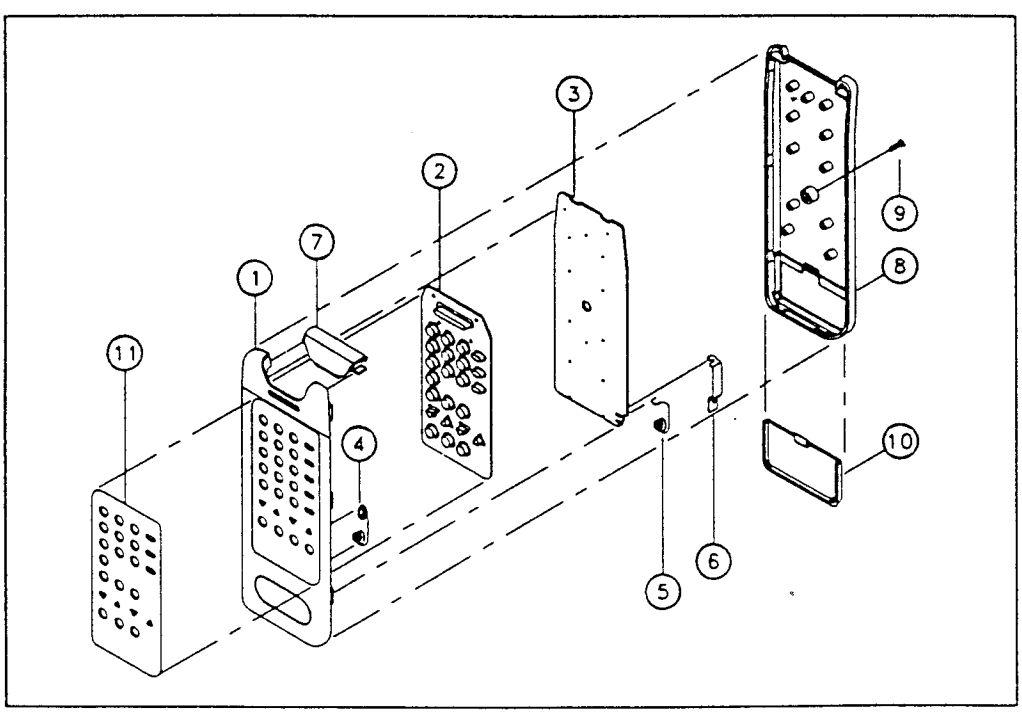
PIN NO.	1	2	3	4	5	6	7
	3	0	3	3	3	3	0
PIN NO.	8	9	10	11	12	13	14
	0	3	0	0	0	0	0
PIN NO.	15	16	17	18			
	0	0	0	GND			

VOLTAGE FOR TRANSISTOR

SYMBOL	B(V)	C(V)	E(V)
Q701	0	30	
Q702	0	2.1V	GND

REMOTE HANDSET UNIT OF EXPLODED VIEW PARTS LIST :

LOCATION	PARTS NO.	DESCRIPTION	QTY
1	201-390202-XX	TOP CABINET	1
2	334-390207-01	CONDUCTIVE RUBBER	1
3		HANDSET P.C. BOARD ASS'Y	1
4	477-390203-01	BATTERY CONTACT SPRING WIRE +, - VE	1
5	477-390204-01	BATTERY CONTACT SPRING WIRE - VE	1
6	472-390204-01	BATTERY CONTACT PLATE + VE	1
7	263-390201-01	FRONT LENS	1
8	203-390202-XX	BOTTOM CABINET	1
9	610-260108-00	SELF-TAPPING SCREW R/T 2.6 X 8 mm	1
10	210-390401-XX	BATTERY COVER	1
11	411-390207-XX	NAME PLATE	1



PARTS LIST

PART NUMBER	DESCRIPTION	UNIT QTY
001-190004-95	LINE FILTER FMRCILF0046TAZZ HIKOM	1.0000
001-190010-96	HORI DRIVE TRANSFORMER AT-19E-R0710	1.0000
001-413921-94A	SWITCHING TRANSFORMER HL-4025B	1.0000
002-370000-02	TANK IFT COIL 51M7-M /R12-L242A	2.0000
002-670000-02	SOUND IFT COIL 31M7-M /R12-L241A	1.0000
002-770000-02	CHROMA IFT COIL L-4M7D3 (MSC) /R22-E498X	1.0000
006-210012-02	RELAY 12V VS 12MB 12VDC TV-5	1.0000
007-106000-16	TRAP FILTER 6.0 MHZ TPS6.0MB MURATA	1.0000
007-300455-46	CERAMIC RESONATOR 455KHZ CSB455EB MURATA	1.0000
007-300503-16	CERAMIC RESONATOR 503.5 KHZ +-1.5 KHZ	1.0000
007-304000-06	CERAMIC RESONATOR 4MHZ CSA4.00MG MURATA	1.0000
007-306000-06	CERAMIC FILTER 6.0 MHZ SFE6.0MB MURATA	1.0000
007-739500-39	SAW FILTER 39.5 MHZ OFWJ1953M SIEMENS	1.0000
013-101005-12H	CARBON FILM RESISTOR 100 OHM 1/16W 5%	2.0000
013-101105-12	CARBON FILM RESISTOR 100 OHM 1/4W 5%	1.0000
013-102005-12H	CARBON FILM RESISTOR 1K OHM 1/16W 5%	8.0000
013-103005-12H	CARBON FILM RESISTOR 10K 10K OHM 1/16W 5%	14.0000
013-103105-12	CARBON FILM RESISTOR 10K OHM 1/4W 5%	2.0000
013-103205-12	CARBON FILM RESISTOR 10K OHM 1/2W 5%	1.0000
013-103405-75	FIXED METAL OXIDE FILM RESISTOR	1.0000
013-104005-12H	CARBON FILM RESISTOR 100K OHM 1/16K 5%	1.0000
013-104205-12	CARBON FILM RESISTOR 100K OHM 1/2W 5%	1.0000
013-105005-12H	CARBON FILM RESISTOR 1M OHM 1/16W 5%	2.0000
013-109005-12	CARBON FILM RESISTOR 1 OHM 1/16W 5%	1.0000
013-109005-12H	CARBON FILM RESISTOR 1 OHM 1/16W 5%	1.0000
013-120305-75	FIXED METAL OXIDE FILM RESISTOR 12 OHM	1.0000
013-120405-75	FIXED METAL OXIDE FILM RES 12 OHM 2W	1.0000
013-121005-12H	CARBON FILM RESISTOR 120 OHM 1/16W 5%	1.0000
013-122005 12H	CARBON FILM RESISTOR 1.2K OHM 1/16W 5%	1.0000
013-122205-22	FLAME PROOF CAR FILM RES KOARDF50ST52	1.0000
013-123005-12H	CARBON FILM RESISTOR 12K OHM 1/16W 5%	3.0000
013-129305-82	FLAME PROOF FUSING RESISTOR	1.0000
013-151005-12H	CARBON FILM RESISTOR 150 OHM 1/16W 5%	1.0000
013-151205-12	CARBON FILM RESISTOR 150 OHM 1/2W 5%	1.0000
013-152005-12H	CARBON FILM RESISTOR 1.5K OHM 1/16W 5%	4.0000
013-152105-12	CARBON FILM RESISTOR 1.5K OHM 1/4W 5%	1.0000
013-153005-12H	CARBON FILM RESISTOR 15K OHM 1/16W 5%	6.0000
013-153405-75	FIXED METAL OXIDE FILM RESISTOR	3.0000
013-182005-12H	CARBON FILM RESISTOR 1.8K OHM 1/16W 5%	3.0000
013-182105-12	CARBON FILM RESISTOR 1.8K OHM 1/4W 5%	1.0000
013-183005-12H	CARBON FILM RESISTOR 18K OHM 1/16W 5%	2.0000
013-202005-12H	CARBON FILM RESISTOR 2K OHM 1/16W 5%	2.0000
013-202605-75	FIXED METAL OXIDE FILM RESISTOR 2K OHM	1.0000
013-203005-12H	CARBON FILM RESISTOR 20K OHMK1/16W 5%	1.0000
013-204005-12H	CARBON FILM RESISTOR 200K OHM 1/16W 5%	2.0000
013-221005-12H	CARBON FILM RESISTOR 220 OHM 1/16W 5%	3.0000
013-221305-75	FIXED METAL OXIDE FILM RESISTOR	1.0000
013-222005-12H	CARBON FILM RESISTOR 2.2K OHM 1/16W 5%	4.0000
013-222205-12	CARBON FIRM RESISTOR 2.2K OHM 1/2W 5%	1.0000
013-223005-12	CARBON FILM RESISTOR 22K OHM 1/16W 5%	1.0000
013-223005-12H	CARBON FILM RESISTOR 22K OHM 1/16W 5%	4.0000
013-223105-12	CARBON FILM RESISTOR 22K OHM 1/4W 5%	1.0000
013-224005-12H	CARBON FILM RESISTOR 220K OHM 1/16W 5%	1.0000
013-229305-82	FLAME PROOF FUSING RESISTOR 2.2 OHM	1.0000
013-229405-75	FIXED METAL OXIDE FILM RES 2.2 OHM 2W	1.0000

PART NUMBER	DESCRIPTION	UNIT QTY
013-270005-12H	CARBON FILM RESISTOR 27 OHM 1/16W 5%	1.0000
013-270405-75	FIXED METAL OXIDE FILM RES 27 OHM 2W	1.0000
013-271005-12H	CARBON FILM RESISTOR 270 OHM 1/16W 5%	2.0000
013-272005-12H	CARBON FILM RESISTOR 2.7K OHM 1/16W 5%	2.0000
013-272205-22	FLAME PROOF CAR FILM RES KOARDF50ST52	5.0000
013-273305-75	FIXED METAL OXIDE FILM RESISTOR 27K 1W	1.0000
013-274205-12	CARBON FILM RESISTOR 270K OHM 1/2W 5%	1.0000
013-330405-75	FIXED METAL OXIDE FILM RESISTOR	1.0000
013-331105-12	CARBON FILM RESISTOR 330 OHM 1/4W 5%	1.0000
013-332005-12	CARBON FILM RESISTOR 3.3K OHM 1/16W 5%	1.0000
013-332005-12H	CARBON FILM RESISTOR 3.3K OHM 1/16W 5%	2.0000
013-332105-12	CARBON FILM RESISTOR 3.3K OHM 1/4W 5%	4.0000
013-333005-12H	CARBON FILM RESISTOR 33K OHM 1/16W 5%	6.0000
013-334005-12H	CARBON FILM RESISTOR 330K OHM 1/16W 5%	1.0000
013-334305-75	FIXED METAL OXIDE FILM RESISTOR 330K OHM	1.0000
013-338410-82	FLAME PROOF FUSING RESISTER 0.33 OHM 2W	1.0000
013-363005-12H	CARBON FILM RESISTOR 36K OHM 1/16W 5%	1.0000
013-390805-75	FIXED METAL OXIDE FILM RES 39 OHM 7W	1.0000
013-391005-12H	CARBON FILM RESISTOR 390 OHM 1/16W 5%	2.0000
013-392005-12H	CARBON FILM RESISTOR 3.9K OHM 1/16W 5%	2.0000
013-3993005-12H	CARBON FILM RESISTOR 39K OHM 1/16W 5%	1.0000
013-470005-12	CARBON FILM RESISTOR 47 OHM 1/16W 5%	1.0000
013-470005-12H	CARBON FILM RESISTOR 47 OHM 1/16W 5%	1.0000
013-470205-22	FLAME PROOF CAR FILM RES KOARDF50ST52	1.0000
013-471005-12H	CARBON FILM RESISTOR 470 OHM 1/16W 5%	2.0000
013-471205-22	FLAME PROOF CAR. FILM RES. 470 OHM 1/2W	1.0000
013-472005-12H	CARBON FILM RESISTOR 4.7K OHM 1/16W 5%	7.0000
013-472105-12	CARBON FILM RESISTOR 4.7K OHM 1/4W 5%	1.0000
013-473005-12H	CARBON FILM RESISTOR 47K OHM 1/16W 5%	9.0000
013-474005-12H	CARBON FILM RESISTOR 470K OHM 1/16W 5%	2.0000
013-475005-12	CARBON FILM RESISTOR 4.7M OHM 1/16W 5%	1.0000
013-479605-54	CEMENT RES. 4.7 OHM 5W 5% ERF-5ZXJ4R7	1.0000
013-561005-12H	CARBON FILM RESISTOR 560 OHM 1/16W 5%	4.0000
013-562005-12H	CARBON FILM RESISTOR 5.6K OHM 1/16W 5%	5.0000
013-564005-12H	CARBON FILM RESISTOR 560K OHM 1/16W 5%	1.0000
013-581005-12H	CARBON FILM RESISTOR 680 OHM 1/16W 5%	3.0000
013-681105-12	CARBON FILM RESISTOR 680 OHM 1/4W 5%	2.0000
013-682005-12H	CARBON FILM RESISTOR 6.8K OHM 1/16W 5%	2.0000
013-682105-12	CARBON FILM RESISTOR 6.8K OHM 1/4W 5%	2.0000
013-682605-75	FIXED METAL OXIDE FILM RESISTOR 6.8K	1.0000
013-588310-82	FLAME PROOF FUSUING RESISTOR	5.0000
013-752005-12H	CARBON FILM RESISTOR 7.5K OHM 1/16W 5%	1.0000
013-820005-12H	CARBON FILM RESISTOR 82 OHM 1/16W 5%	1.0000
013-821005-12H	CARBON FILM RESISTOR 820 OHM 1/16W 5%	1.0000
013-821105-12	CARBON FILM RESISTOR 820 OHM 1/4W 5%	1.0000
013-822005-12H	CARBON FILM RESISTOR 8.2K OHM 1/16W 5%	1.0000
013-822105-12	CARBON FILM RESISTOR 8.2K OHM 1/4W 5%	1.0000
013-823005-12H	CARBON FILM RESISTOR 82K OHM 1/16W 5%	2.0000
013-825305-92	HIGH VOLTAGE RESISTOR 8.2M OHM 1W 5%	1.0000
014-210200-01	P.T.C. THERMISTOR "POST-R" ZPB53BL200C	1.0000
026-102111-01	MYLAR CAPACITOR 001 MFD 100V 10%	4.0000
026-104111-01	MYLAR CAPACITOR 1MFD 100V 10%	3.0000
026-222111-01	MYLAR CAPACITOR 0022 MFD 100V 10%	2.0000
026-223111-01	MYLAR CAPACITOR 0.022 MFD 100V 10%	3.0000
026-224111-01	MYLAR CAPACITOR 0.22 MFD 100V 10%	1.0000
026-273111-01	MYLAR CAPACITOR 0.027MFD 100V 10%	1.0000
026-274200-31	POLYPROPYLENE CAP 0.27MFD 200V 5%	1.0000
026-332160-41	METALLIZED POLYPROPYLENE CAP 0.0033 MFD	2.0000
026-333071-11	POLY. FILM CAP ECQ-B1H333KF 0.033MFD	1.0000

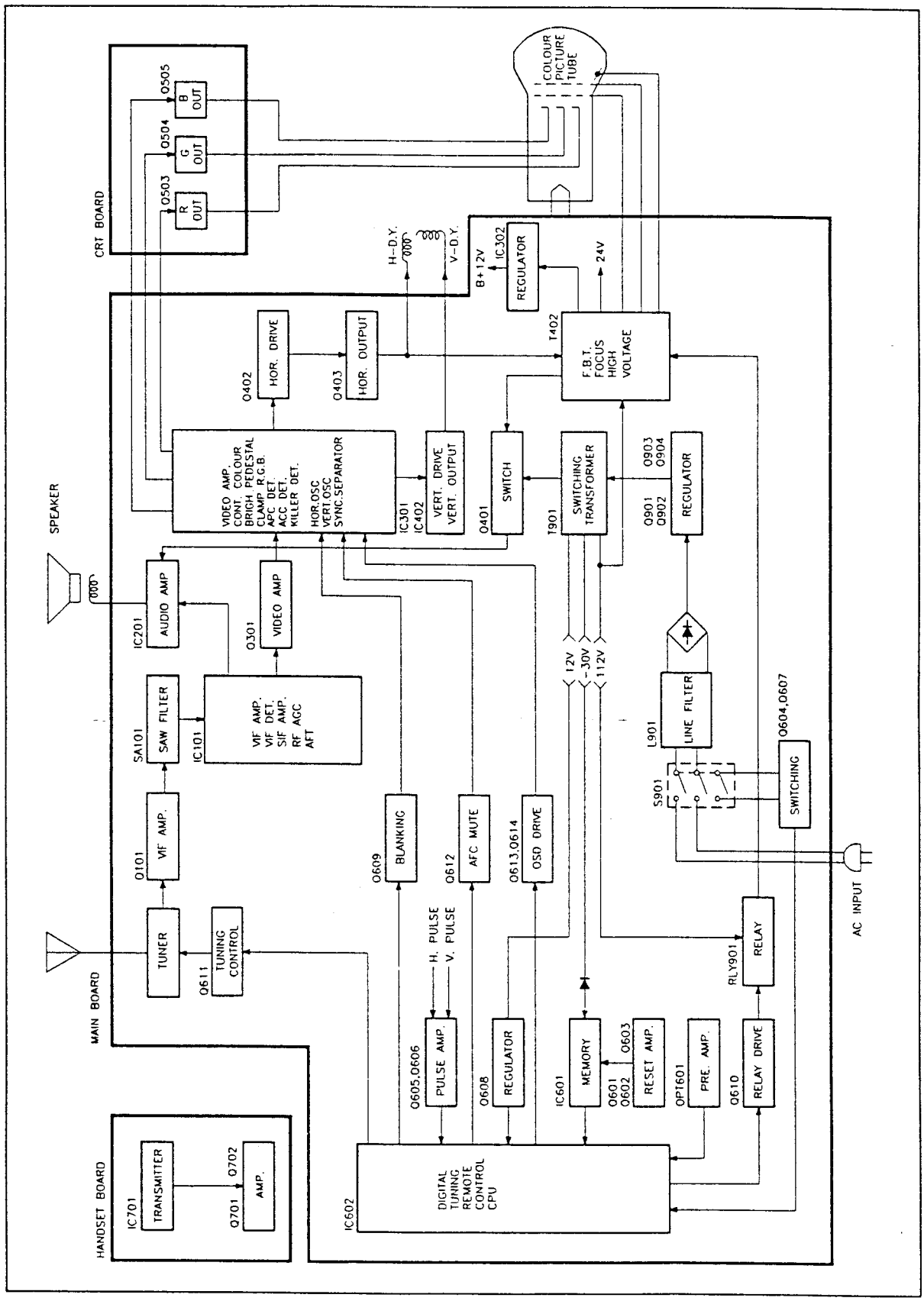
PART NUMBER	DESCRIPTION	UNIT QTY
026-333111-01	MYLAR CAPACITOR .033 MFD 100V 10%	2.0000
026-473212-41	METALLIZED POLY CAP ECQU2A473MN 0.047MFD	2.0000
026-474111-01	MYLAR CAPACITOR 0.47 MFD 100V 10%	3.0000
026-563201-31	POLYPROPYLENE CAP 0.056MFD 200V 10%	1.0000
030-512110-00	LED 'RED' SEL211OR	1.0000
031-211015-00	TRANSISTOR 2SA 1015 TOSHIBA	4.0000
031-220774-20	TRANSISTOR 2SB774T MATSUSHITA	1.0000
031-230388-00	TRANSISTOR 2SC 388ATM TOSHIBA	1.0000
031-230945-00	TRANSISTOR 2SC945(L)P	1.0000
031-231815-26	TRANSISTOR 2SC 1815-Y TOSHIBA	12.0000
031-232001-00	TRANSISTOR 2SC2001K/L	1.0000
031-232482-00	TRANSISTOR 2SC 2482 TOSHIBA	4.0000
031-240400-06	TRANSISTOR 2SD400F SANYO	2.0000
031-241545-00	TRANSISTOR 2SD1545	1.0000
031-241554-00	TRANSISTOR 2SD1554 TOSHIBA	1.0000
033-108701-14	I.C. TA8701AN TOSHIBA	1.0000
033-200820-31	IC TBA820M S.G.S.	1.0000
033-207830-16	IC LA7830 SANYO	1.0000
033-308718-14	I.C. TA8718N TOSHIBA	1.0000
033-507812-31	IC L7812CV SGS	1.0000
033-801220-11	I.C. MN1220 MATSUSHITA	1.0000
033-806014-11	IC MN6014A	1.0000
033-815245-11C	IC MN15245KWC	1.0000
036-600370-01	OPTICAL RECEIVER MODULE HC-370M	1.0000
037-443361-20	CRYSTAL 4.433618 MHZ KD02210F	1.0000
045-022410-05	SLIDE SWITCH 2P2T SS2FO4G5 PIC	1.0000
045-022411-11	SLIDE SWITCH 2P2T SS22F12611 PIC	1.0000
046-100001-14	POWER SWITCH ESB-99957S MATSUSHITA	1.0000
046-100001-40	TACT SWITCH SKHHPN 0002 ALPS	11.0000
060-101001-08	CONTACT PIN PCB TYPE (MALE) TAIKO	1.0000
060-101801-08	PIN CONNECTOR 1 PIN SOCKET TS-80H-01-A1	1.0000
060-102252-23	PIN CONNECTOR 2 PINS SOCKET 5051-01	1.0000
060-102255-23	PIN CONNECTOR 2 PINS PLUG 5045-02A	1.0000
060-102805-08	PIN CONNECTOR 2 PINS PLUG STRAIGHT TYPE	1.0000
060-103802-08	PIN CONNECTOR 3 PINS SOCKET STRAIGHT	1.0000
060-103805-08	PIN CONNECTOR 3 PINS PLUG STRAIGHT TYPE	1.0000
060-104805-08	PIN CONNECTOR 4 PINS PLUG STRAIGHT TYPE	1.0000
060-105252-23	PIN CONNECTOR 5 PINS SOCKET 5051-05	1.0000
060-105255-23	PIN CONNECTOR 5 PINS PLUG 5045-05A	1.0000
061-520004-01	CRT SOCKET HPS2171-010701 MINI NECK	1.0000
066-962023-09	SPEAKER 16 OHM 2W MAX 5W 2" X 3.5"	1.0000
071-400000-00	AC LINE CORD BS6500 STANDARD BLACK	3.0000
072-320010-30	JUMBERWIRE UL1015 AWG#20 100 MM BLACK	1.0000
072-522010-72	JUMPER WIRE UL1672 AWG#22 100MM RED	1.0000
072-522010-73	JUMPER WIRE UL1672 AWG#22 100MM ORANGE	1.0000
072-726000-00	BARE WIRE AWG#26 1KG=375M	0.0153
072-830000-48	FLAT BRAIDED WIRE 1LB=82M	0.0097
073-666016-11	SINGLE SHIELD WIRE AWG#26 160MM BROWN	1.0000
078-101036-01	JUMPER WIRE ASS'Y UL1007 AWG#22 360MM	1.0000
078-101036-04	JUMPER WIRE ASS'Y UL1007 AWG#22 360MM	1.0000
078-101040-00	JUMPER WIRE ASS'Y UL1007 AWG#22 400MM	1.0000
078-101040-02	JUMPER WIRE ASS'Y UL1007 AWG#22 400MM	1.0000
078-101046-03	JUMPER WIRE ASS'Y UL1007 AWG#22 460MM	1.0000
078-103024-00	JUMPER WIRE ASS'Y UL1007 AWG#22 240MM	1.0000
078-103024-02	JUMPER WIRE ASS'Y UL1007 AWG#22 240MM	1.0000
078-106032-03	JUMPER WIRE ASS'Y UL1007 AWG#22 320MM	1.0000
078-106032-04	JUMPER WIRE ASS'Y UL1007 AWG#22 320MM	1.0000
078-203028-30	JUMPER WIRE ASS'Y UL1015 AWG#20 280MM	1.0000
078-206036-30	JUMPER WIRE ASS'Y UL1015 AWG#20 360MM	1.0000

SPECIFICATION

SYSTEM		PAL-I	
DESTINATION		U.K.	
CHANNEL COVERAGE UHF		21-69	CH
FREQUENCY RANGE UHF		470-862	MHZ
SCANNING	LINES	625	LINES
	HORIZONTAL	15625	Hz
	VERTICAL	50	Hz
IF FREQUENCY	VIDEO	39.5	MHz
	SOUND	33.5	MHz
	CHROMA	35.07	MHz
VISION/SOUND SEPARATION		6.0	MHz
SENSITIVITY	UHF	80	dBuV
OUTPUT POWER	MAXIMUM	900	mW
	10% THD	700	mW
C.R.T.		14" (36 cm) Diagonal, 22.5 mm Neck Diameter 90º Deflection Angle	
SPEAKER		50 mm x 90 mm, 16	ohm
ANTENNA IMPEDANCE		75	ohm
POWER CONSUMPTION		70	Watts

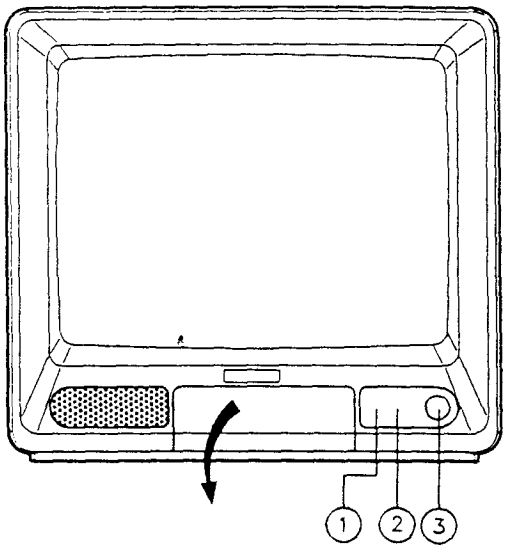
PART NUMBER	DESCRIPTION	UNIT QTY
411-390207-09	NAME PLATE 23 HOLES	1.0000
412-911501-06	MDL PLATE 240V W/DBL	1.0000
418-911505-01	PRESET OVERLAY 12 HOLES BLACK W/SILK'S	1.0000
418-911540-01	TUNER COVER W/SILK PRINTING	1.0000
450-371602-01	TEST PIN	2.0000
450-690301-01	TEST PIN	14.0000
450-701201-01	SOLDERING LUG (10015-5)	1.0000
451-701201-01	WIRE DRESS	1.0000
466-701201-01	FUSE HOLDER	2.0000
472-390204-01	BATTERY CONTACT PLAT + VE	1.0000
477-371601-01	CRT SPRING	1.0000
477-490203-01	CONTACT SPRING WIRE +, - VE	1.0000
477-390204-01	CONTACT SPRING WIRE - VE	1.0000
477-682101-01	COMPRESSION SPRING	1.0000
481-911503-01	HEAT SINK W/SOLDERING LUG ASS'Y	2.0000
483-391408-01	SHIELD BOX BODY	1.0000
484-392006-01	HEAT SINK	1.0000
485-911501-01	LOOP ANTENNA ASS'Y W/POLYBAG 0.04MM THK	1.0000
510-911501-04	GIFT BOX ENG	1.0000
521-050105-00	FELT PAPER 50 X 10 X 0.5MM THK.	1.0000
530-080032-08	FIBER WASHER (1103)	2.0000
530-140033-16	FIBER WASHER 14 X 3.3 X 1.6MM THK	1.0000
569-018101-10	QUALITY APPROVED LABEL	1.0000
569-330201-03	QC PASSED LABEL GOLD B/G BLACK LETTERING	1.0000
569-331001-01	FUSE LABEL W/BUILT-IN THERMAL FUSE	1.0000
569-370601-10	TV SYSTEM LABEL (PAL I)	1.0000
569-371401-26	CRT X-RAY APPROVED LABEL ENGLISH/GERM	2.0000
569-371401-30	ADDRESS LABEL	1.0000
569-372801-01	QC LABEL (BLUE)	1.0000
569-391501-38	AC LINE CORD LABEL	1.0000
569-391501-42	STATIC LABEL	1.0000
569-691301-13	DATE CODE LABEL 2CM X 1.5CM (W/O PRINTING)	2.0000
569-691301-19	"PEEL OFF LABEL" (K-6913IF 'A')	1.0000
569-911501-04	BAR CODE LABEL	2.0000
569-911501-05	BATTERIES COMPARTMENT LABEL L"RO3S X 2"	1.0000
570-911501-02	I/B ALBA CTV840 ENG 240V (K-91151F)	1.0000
590-691301-07	WARRANTY CARD ENG COMMON USE	1.0000
592-691001-01	'HELPLINES MESSAGE' SHEET FOR ALBA	1.0000
600-305010-10	MACHINE SCREW P/H 3 X 10MM WHITE	4.0000
600-305012-10	MACHINE SCREW P/H 3 X 12MM WHITE	2.0000
610-260108-00	SELF-TAPPING SCREW R/T 2.6 X 8MM BLACK	1.0000
610-300408-10	SELF-TAPPING SCREW R/T 3.0 X 8MM WHITE	1.0000
612-300110-10	SELF-TAPPING SCREW W/T 3 X 10MM WHITE	2.0000
614-400408-10	SELF-TAPPING SSCREW B/T 4 X 8MM WHITE	2.0000
614-400412-10	SELF-TAPPING SCREW B/T 4 X 12MM WHITE	1.0000
614-400416-10	SELF-TAPPING SCREW B/T 4 X 16MM WHITE	2.0000
614-500238-10	SELF-TAPPING SCREW B/T 5 X 38MM WHITE	4.0000
614-500416-10	SELF-TAPPING SCREW 5.0 X 16MM B/T WHITE	2.0000
620-305025-55	STEEL NUT M3	3.0000
633-055032-07	SPRING WASHER (503)	3.0000
635-250325-01	MICA SHEET	1.0000
680-101261-01	CABLE TIE	15.0000
702-391201-02	DOOR LOCKER ASS'Y F4	1.0000
806-002725-02	TRANSPARENT P.P. TAPE 2 1/2"	0.0320

BLOCK DIAGRAM

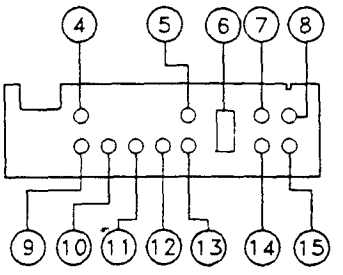


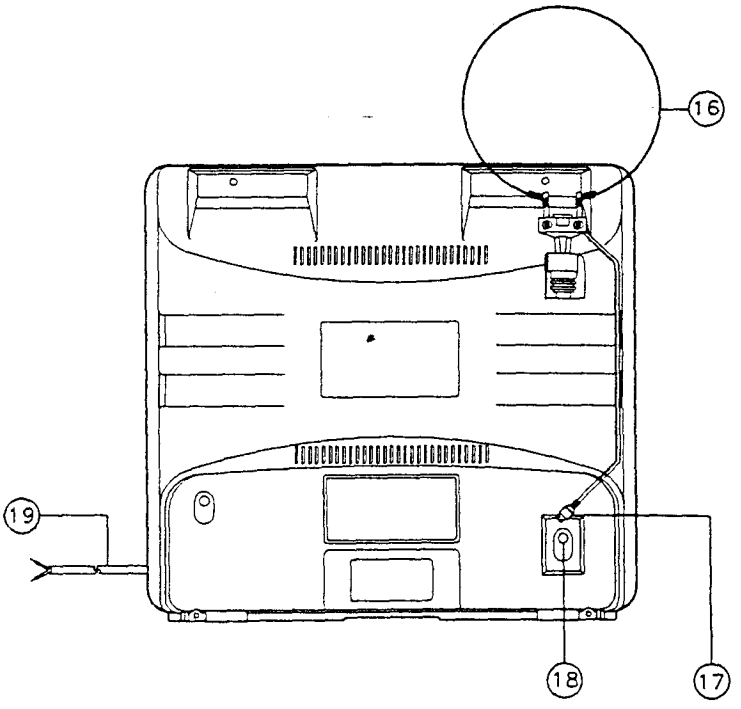
CONTROL LOCATION

1. Remote Sensor
2. Power Indicator
3. Power Switch (ON/OFF)
4. Picture Function Button (+)
5. Storage Button
6. Preset Switch (ON/OFF)
7. Volume Up Control
8. Program Up Control
9. Picture Function Button (-)
10. Picture Selector Button (BRIGHT/CONTRAST/COLOUR)
11. Hi-Speed Button
12. Tuning (-)
13. Tuning (+)
14. Volume Down Control
15. Program Down Control
16. Loop Antenna
17. Antenna Connector
18. Antenna Input (Tuner)
19. AC Power Cord



PUSH TO OPEN THE PANEL





ALIGNMENT INSTRUCTION

I. PLEASE READ BEFORE ATTEMPTING SERVICE

1. Never disconnect any leads while receiver is in operation.
2. Disconnect all power before attempting any repairs.
3. Do not short any portion of the circuit while power is on.
4. For safety reasons, all parts replaced should be identical (for parts and part numbers see parts list).
5. Before alignment the set must be pre-heated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by erase coil.

II. TEST EQUIPMENT

1. VIF Sweep Generator
2. SIF Sweep Generator
3. Colour Bar/Dot/Cross Hatch Generator
4. DC Power Supply (14V)
5. Oscilloscope
6. Vacuum Tube Voltmeter
7. Volt Ohmmeter
8. High Voltage Meter
9. Ampere Meter (0.5 Class, DC 3mA Max.)
10. Demagnetizing Coil
11. Philips Pattern Generator
12. Frequency Counter
13. Continuous Waveform Generator

III. TANK COIL ALIGNMENT

A. PREPARATION STEP (SEE FIG. 1)

1. Connect OUTPUT lead of VIF Sweep Generator between IC101 Pin 4 and GND.
2. Connect lead of FROM DET between TP301 and GND.
3. Supply DC +14V to ⊕ lead of TP401.
4. Supply RF AGC 5.2V to TP102.

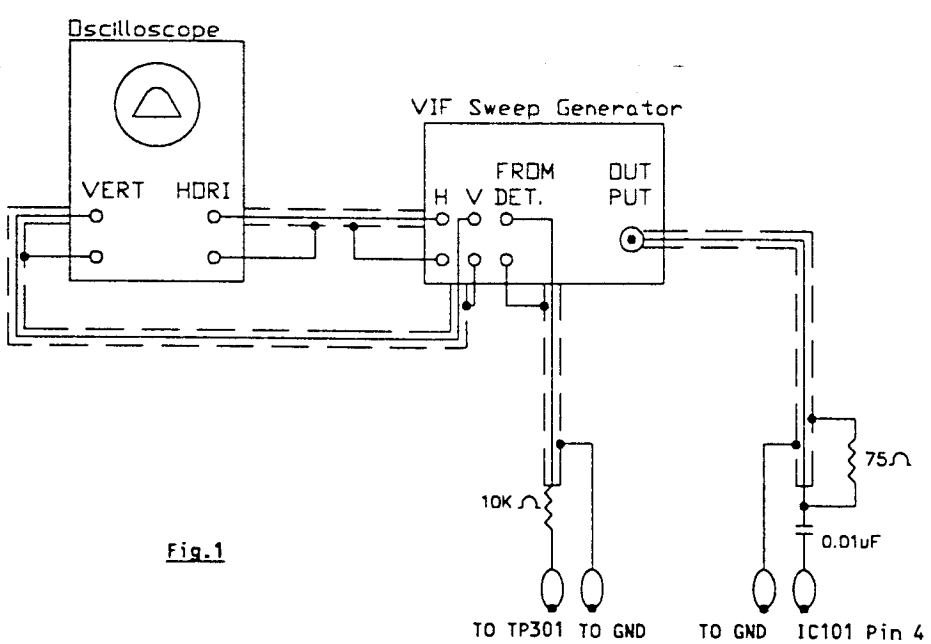


Fig.1

B. ALIGNMENT STEP (SEE FIG.2)

1. Adjust T102 to obtain maximum amplitude of response cause at PC (39.0MHz).
2. Adjust the AGC VOLT obtain the waveform as Fig 2.

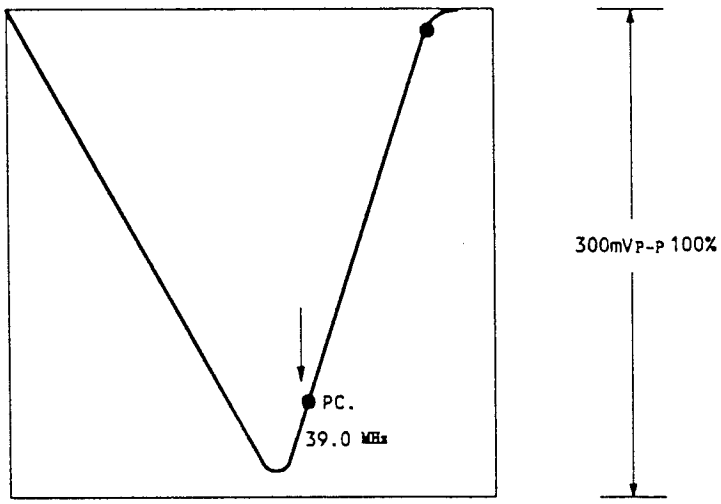


Fig.2

IV. VIF ALIGNMENT

A. PREPARATION STEP (SEE FIG.1)

1. Connect output lead of VIF Sweep Generator between tuner test point TP and tuner case. (70dB).
2. Connect resistor (100 Ohm) between TP104 and TP105.
3. Connect lead of FROM DET between TP301 and GND.
4. Supply DC +14V to ⊕ lead of TP401.
5. Supply RF AGC 5.2V to TP102.

B. ALIGNMENT STEP

1. Increase the output level of Sweep Generator in 10dB.
2. Adjust AGC bias voltage to achieve 300 mVp-p output (on Oscilloscope).
3. Adjust tuner converter coil to obtain the waveform as in Fig.3.

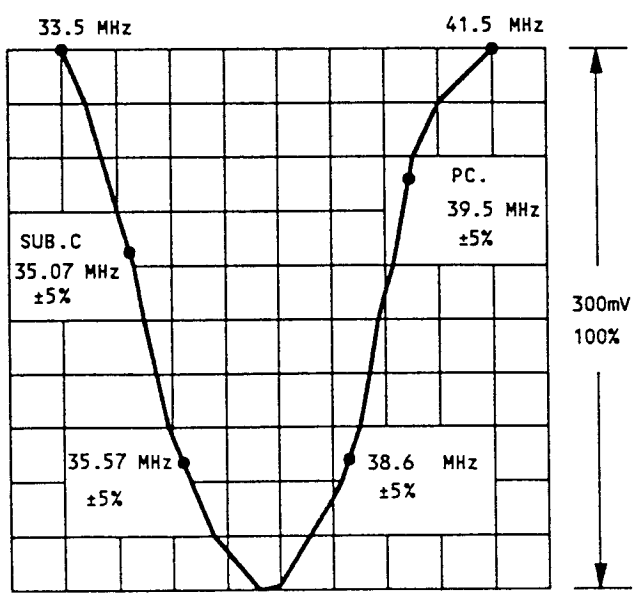


Fig.3

V. AFC ALIGNMENT

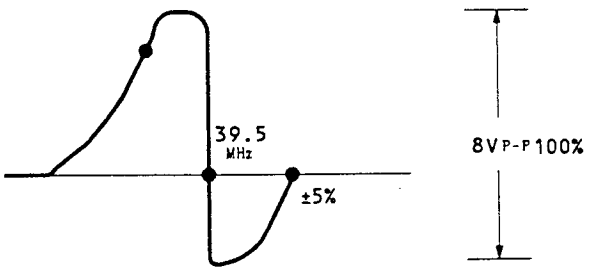
A. PREPARATION STEP

1. Connect RF AGC 5.2V at TP102.
2. Remove the damping resistor (100 Ohm) at TP104, TP105.
3. Connect output lead of Sweep Generator to tuner point TP & tuner case. (70dB)
4. Connect lead of FROM DET between TP106 and GND.
5. Supply DC +14V to⊕lead of TP401.

B. ALIGNMENT STEP

1. Adjust the AGC 5.2V to achieve 8Vp-p output.
2. Adjust T103 so that picture carrier 39.5MHz is centred as in Fig.4.

Fig.4

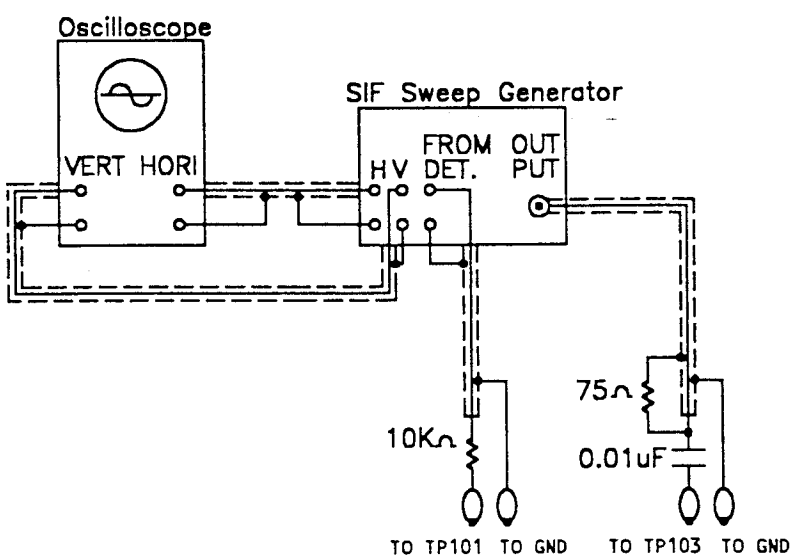


VI. SIF ALIGNMENT

A. PREPARATION STEP (SEE FIG.5)

1. Connect output lead of SIF Sweep Generator between TP103 and GND.
2. Connect lead of FROM DET between TP101 and GND.
3. Supply DC +14V to ⊕ lead of TP401.

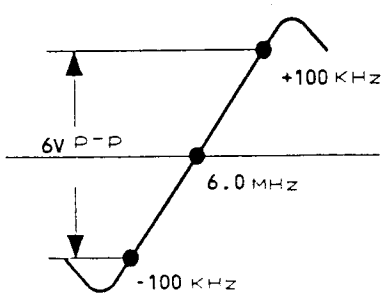
Fig.5



B. ALIGNMENT STEP

1. Adjust output of Sweep Generator to achieve 6Vp-p between markers of 100KHz.
2. Adjust T101 so that sound carrier is centred as in Fig.6.

Fig.6



VII. B+ ADJUSTMENT

1. Receive Monoscope Pattern.
2. Connect voltmeter between R417 and GND adjust VR901 to reading of DC 112.25 ± 0.25V.

VIII. PICTURE CENTRE ADJUSTMENT

1. Receive the Monoscope Pattern.
2. Under UK terrestrial field adjust HOR. centre VR301 to obtain a normal picture.

IX. VERTICAL CIRCUIT ADJUSTMENT

1. Receive the Monoscope Pattern.
2. Adjust V-Size (VR302) to obtain a normal picture.

X. WHITE BALANCE ADJUSTMENT

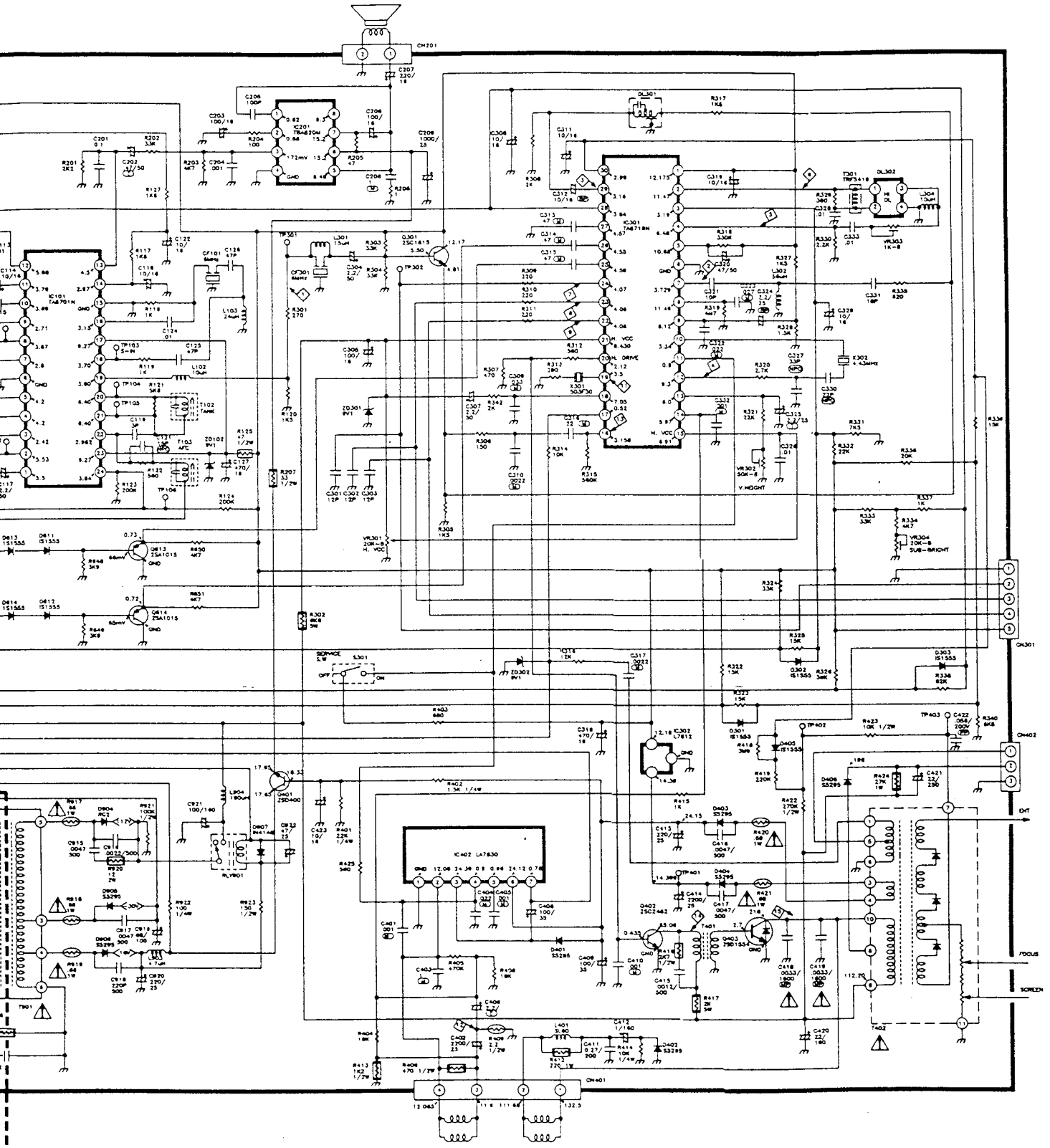
1. Set the SCREEN control (on the FBT) to minimum position.
2. Turn the red, green and blue LOW-LIGHT (VR501, VR502, VR504) controls to middle position and turn the DRIVE (VR503, VR505) controls to middle position.
3. Receive the Monoscope Pattern.
4. Set the SERVICE switch (S301) to "SERVICE" position.
5. Slowly turn the SCREEN control clockwise to the point where a horizontal line just illuminates.
6. Adjust VR501 to get a red horizontal line on CRT.
7. Adjust VR504 to get a yellow horizontal line on CRT.
8. Adjust VR504 to get a white horizontal line on CRT.
9. Reset the SERVICE switch (S301) to normal position.
10. Set BRIGHTNESS control to middle position.
11. Adjust DRIVE (VR503, VR505) controls to obtain a uniform white picture.

XI. FOCUS ADJUSTMENT

1. Set CONTRAST control to maximum position and BRIGHTNESS control to middle position.
2. Adjust FOCUS control (on the FBT) to obtain a sharpest and picture on the CRT.

XII. RF AGC ALIGNMENT

1. Receive the signal of UHF channel and set the AFC ON. (PRESET SWITCH TO OFF POSITION)
2. Set the input field strength to 62 ± 3dB.
3. Adjust RF AGC (VR101) control to the point where noise is disappeared.



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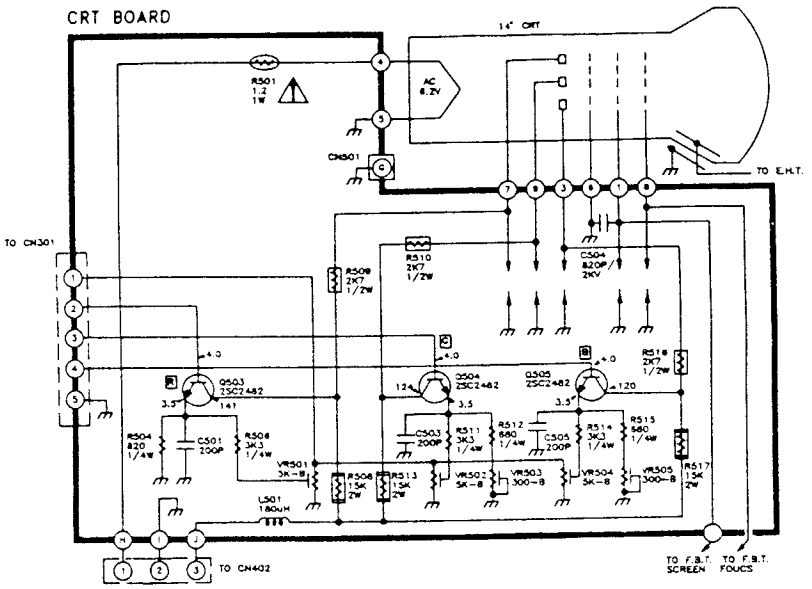
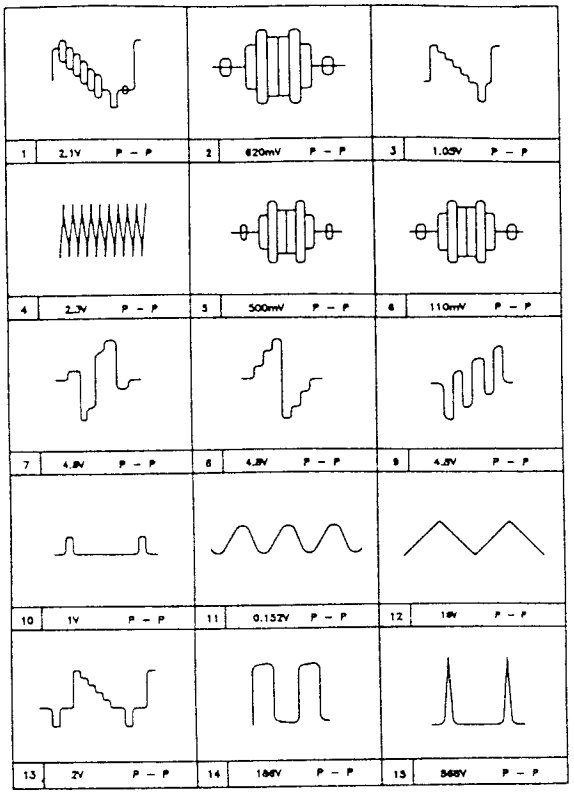
THE BEST THAT
IS AVAILABLE

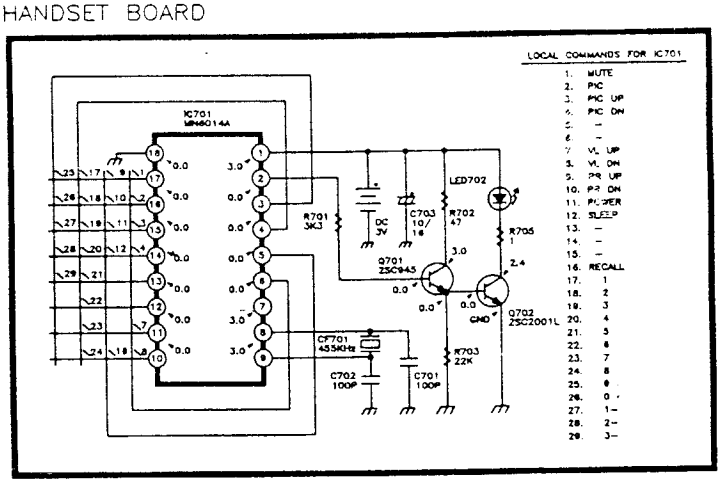
CRT BOARD



WAVEFORM



HANDSET BOARD



CIRCUIT SYMBOLS		
RESISTOR	CAPACITOR	
NONFLAMMBLE	ELECTROLYIC	POLYPROPYLENE
FUSEBLE	BI-POLAR ELECTROLYIC	MYLAR
CEMENT	TANTALUM	
METAL OXIDE	METALLIZED POLYESTER	
THERMISTOR	POLYESTER FILM	

NOTE:

(1) ALL CAPACITORS ARE IN uF UNLESS OTHERWISE NOTED. ALL CAPACITORS ARE 50wv UNLESS OTHERWISE NOTED.
(2) CAPACITOR NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITORS.
(3) ALL RESISTORS ARE IN OHM 1/16 WATT UNLESS OTHERWISE NOTED.
(4) RESISTOR NOT SPECIFICALLY DESIGNATED ARE CARBON FILM RESISTORS.
(5) DC VOLTAGE ARE MEASURED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST.
(6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOR PHILIPS PATTEN).
(7) THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
(8) ⚠ SAFETY CRITICAL DEVICE.

TITLE: SCHEMATIC DIAGRAM	
MODEL: K-8214/9116	SYSTEM: PAL-I
DRAW NO: 8214-01	COUNTRY:
DATE: MAY 30,1990	REV NO: C (12-11-92)

PART NUMBER	DESCRIPTION	UNIT QTY
079-104100-00	UL/CSA PVC TUBE 4.1 MM DIA.	0.2000
079-105300-00	UL/CSA PVC TUBE 5.3MM DIA	0.1000
079-109500-00	UL/CSA PVC TUBE 9.5MM DIA	0.0600
079-50100-00	STAGHETTI TUBE 1MM DIA.	0.0550
079-803500-00	UL/CSA SHRINKABLE TUBE 3.5 MM DIA.	0.0400
082-22200-04	FUSE T2A/250V 5X20MM SLOW BLOW SEMKO &	1.0000
090-382123-01	P.C. BOARD (160392) PHENOLIC T=1.6MM	1.0000
090-390082-50	P.C. BOARD (190490) PHENOLIC T=1.6MM	1.0000
090-911513-01	P.C. BOARD (120592) PHENOLIC T=1.6MM	1.0000
090-911554-01	P.C. BOARD (010592) PHENOLIC T=1.6MM	1.0000
101-214020-04	14" PAL FLYBACK FCK-14a019 SAMSUNG	1.0000
102-314001-19	14" COLOR CRT 370KRB22-TC18 (SPYB)	1.0000
103-113108-02	TUNER UHG PAL-I IEC SOCKET	1.0000
105-100101-02	FIXED INDUCTOR COIL 10MH EL0606SKI-100K	2.0000
105-150101-02	FIXED INDUCTOR COIL 15 MH 10%	1.0000
105-161101-01	CHOKE COIL 160 UH	1.0000
105-181101-02	FIXED INDUCTOR COIL 180 UH 10%	1.0000
105-240103-00	FIXED INDUCTOR COIL 24UH 10%	1.0000
105-479101-02	FIXED INDUCTOR COIL 4.7UH	1.0000
105-560101-02	FIXED INDUCTOR COIL 56MH EL0606SKI-560K	1.0000
105-568103-12	FIXED INDUCTOR COIL .56 UH EC1645-R56M	1.0000
105-650052-03	FIXED INDUCTOR COIL 65 UH 5%	1.0000
108-4001141-03	DEGAUSSING COIL ASS'Y 14" PAL 40T	1.0000
112-102541-06	SEMI-FIXED RESISTOR B-1K OHM	2.0000
112-103541-06	SEMI-FIXED RESISTOR B-10K OHM	1.0000
112-203541-06	SEMI-FIXED RESISTOR B-20K OHM	2.0000
112-301531-08	SEMI-FIXED RESISTOR B-300 OHM 3 PINS	2.0000
112-502531-08	SEMI-FIXED RESISTOR B-5K OHM 3 PIN	3.0000
112-502541-06	SEMI-FIXED RESISTOR B-5K OHM	1.0000
112-503541-06	SEMI-FIXED REISTOR B-50K OHM	1.0000
113-100001-01	DELAY LINE PDL-644KIP SANETRONIC	1.0000
113-200001-00	DELAY LINE ELT10Z216 MATSUSHITA	1.0000
123-030310-10	CERAMIC CAPACITOR 3 PF 50V 0.5PF SL TYPE	1.0000
123-070310-10	CERAMIC CAPACITOR 7PF 50V 0.5PF SL TYPE	1.0000
123-100350-10	CERAMIC CAPACITOR 10PF 50V 10% SL TYPE	1.0000
123-101340-13	CERAMIC CAPACITOR 100 PF 50V 5% CH TYPE	4.0000
123-101350-10	CERAMIC CAPACITOR 100PF 50V 10% SL TYPE	8.0000
123-102370-30	CERAMIC CAPACITOR .001MFD 50V +80-20%	2.0000
123-103370-30	CERAMIC CAPACITOR 0.01MFD 50V +80-20%	19.0000
123-104270-30	CERAMIC CAPACITOR 0.1 MFD 25V +80-20%	3.0000
123-120350-10	CERAMIC CAPACITOR 12 PF 50V 10% SL TYPE	3.0000
123-121350-10	CERAMIC CAPACITOR 120 PF 50V 10% SL TYPE	2.0000
123-122550-40	CERAMIC CAPACITOR 1200PF 500V 10%	1.0000
123-150350-13	CERAMIC CAPACITOR 15 pf 50V 5% NPO TYPE	1.0000
123-180350-10	CERAMIC CAPACITOR 18PF 50V 10% SL TYPE	1.0000
123-201350-10	CERAMIC CAPACITOR 200PF 50V 10% SL TYPE	3.0000
123-202370-30	CERAMIC CAPACITOR 0.002 MFD 50V +80-20%	1.0000
123-203370-30	CERAMIC CAPACITOR 0.02MFD 50V +80-20%	1.0000
123-220340-13	CERAMIC CAPACITOR 22PF 50V 5% CH TYPE	1.0000
123-221550-40	CERAMIC CAPACITOR 220PF 500V 10%	1.0000
123-222467-41	CERAMIC CAPACITOR 0.0022 MFD 400V +-20%	1.0000
123-222580-42	CERAMIC CAPACITOR 0.0022MFD 500V +100-0%	1.0000
123-222840-40	CERAMIC CAP 0.0022MFD 2KV 5%	1.0000
123-330340-13	CERAMIC CAPACITOR 33PF 50V 5% CH TYPE	1.0000
123-470350-10	CERAMIC CAPACITOR 47PF 50V 10% SL TYPE	2.0000
123-472580-42	CER CAP ECKD2H472PU 0.0047 MFD 500V +100	7.0000
123-821840-40	CERAMIC CAP 820PF 2KV 5%	1.0000
124-224061-01	TAN CAP ECSF1VE224K 0.22MFD 35V 10%	1.0000
124-225051-01	TAN CAP ECSF1EE225K 2.2MFD 25V 10%	2.0000

PART NUMBER	DESCRIPTION	UNIT QTY
124-474061-01	TAN CAP ECSF1VE474K 0.47MFD 35V 10%	2.0000
127-105135-01	ELECTROLYTIC CAPACITOR 1 MFD 160V	1.0000
127-106047-01	ELECTROLYTIC CAPACITOR 10MFD 16V 20%	19.0000
127-106047-21	NON-POLARIZED ELECTROLYTIC CAPACITOR	1.0000
127-107047-01	ELECTROLYTIC CAPACITOR 100MFD 16V 20%	4.0000
127-107067-01	ELECTROLYTIC CAPACITOR 100MFD 35V 20%	2.0000
127-107135-02	ELECTROLYTIC CAPACITOR 100 MFD 160V	1.0000
127-107401-01	ELECT COND 100MFD 400V ECES2GU101G 20%	1.0000
127-108057-01	ELECTROLYTIC CAPACITOR 1000MFD 25V 20%	1.0000
127-225077-01	ELECTROLYTIC CAPACITOR 2.2 MFD 50V 20%	3.0000
127-225077-21	NON-POLARIZED ELECTROLYTIC CAPACITOR	1.0000
127-226047-01	ELECTROLYTIC CAPACITOR 22 MFD 16V 20%	1.0000
127-226135-81	ELECTROLYTIC CAP. 22MFD 160V +50-10%	1.0000
127-226215-81	ELECTROLYTIC CAPACITOR 22MFD 250V	1.0000
127-227047-01	ELECTROLYTIC CAPACITOR 220 MFD 16V 20%	1.0000
127-227067-01	ELECTROLYTIC CAPACITOR 220MFD 35V 20%	2.0000
127-228057-01	E.CAP 2200MFD 25V 20% 16 X 25MM	2.0000
127-337077-01	ELECTROLYTIC CAPACITOR 330MFD 50V 20%	1.0000
127-474077-01	ELECTROLYTIC CAPACITOR 0.47 MFD 50V 20%	3.0000
127-476057-01	ELECTROLYTIC CAPACITOR 47MFD 25V 20%	2.0000
127-476077-01	ELECTROLYTIC CAPACITOR 47 MFD 50V 20%	1.0000
127-477047-01	ELECTROLYTIC CAPACITOR 470MFD 16V 20%	3.0000
130-131555-01	SILICON DIODE 1S1555V, TPA2	10.0000
130-134148-01	SILICON DIODE 1N4148 AXIAL MOUNT	9.0000
130-310032-00	RECTIFIER DIODE RG2 SANKEN	1.0000
130-310060-00	RECTIFIER D2SBA S60 6B	1.0000
130-315295-00	RECTIFIER DIODE S5295G/J BYT 52K/J/G	10.0000
130-410033-00	ZENER DIODE KA33V SAM SUNG	1.0000
130-401156-01	ZENER DIODE 5.6V AXIAL MOUNT	1.0000
130-410082-01	ZENER DIODE 8.2V	1.0000
130-410300-01	ZENER DIODE 30V AXIAL MOUNT	1.0000
130-411091-00	ZENER DIODE 9.1V MA1091-M MATSUSHITA	4.0000
130-600101-00	INFRARED EMITTING DIODE EL-1L1	1.0000
200-911501-03	CAB FRONT BLACK W/CHAR GREY SPRAY HI-PS	1.0000
201-390202-02	CABINET TOP BLACK W/SILKS'S OFF-WHITE	1.0000
202-911503-01	CABINET BACK BLACK HI-PS DOW 470	1.0000
203-390202-01	CABINET BOTTOM BLACK ABS	1.0000
210-390401-01	BATTERY COVER BLACK ABS	1.0000
219-911501-03	FRONT CONTROL PANEL DOOR BLK W/CHAR GREY	1.0000
229-371501-01	CRT MTG CLIP WHITE CELON	4.0000
229-911502-01	FUNCTION PCB MOUNTING BRACKET BLACK ABS	1.0000
239-391201-01	ADAPTOR FOR POWER SWITCH BLACK ABS	1.0000
250-911501-01	LED HOLDER BLACK ABS	1.0000
254-911510-01A	LINE CORD CLIP BLACK HI-PS 94VO	1.0000
259-911501-01	DEGAUSSING COIL CLIP	2.0000
263-390201-01	FRONT LENS 920 RED 20784 ABS	1.0000
263-911501-01	SENSOR LENS (REMOTE) RED CLEAR ABS	1.0000
292-911501-01	POWER KNOB BLACK ABS	1.0000
300-911501-02B	POLYFOAM END CAPS W/'PS 06'	1.0000
310-051004-10	POLYBAG 5"X10"X0.04MM THK P.O.	1.0000
310-111404-12	POLYBAG 11" X 14" X 0.04MM THK P.O.	1.0000
310-359504-10B	POLYBAG 3.5" X 9.5" X 0.04MM THK P.O.	1.0000
310-396005-40	EXPANDED POLYETHYLENE FOAM PAPER	0.0010
334-390207-01	CONDUCTIVE RUBBER 24 KEYS BLACK/ORANGE	1.0000
334-390501-01	RUBBER RING (T=3.0MM)	4.0000
381-690302-01	SWITCH COVER SHEET 0.2MM THK PVC SHEET	1.0000
381-911501-01	AV-IN COVER	1.0000
403-911501-01	SPEAKER GRILLS 0.5MM THK DULL BLACK	1.0000
411-371602-55	NAME PLATE	1.0000